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ABSTRACT

This practicum was designed to get parents of third grade students more involved in the math homework process. The primary goal was to enlist parents' help at home in the teaching of responsibility and time-management skills, and in the monitoring of the completion and return of this homework. A second aim was to increase the students' overall math achievement through consistent interaction between home and school. First a needs assessment survey was administered; next a parent workshop was held; and finally, a homework monitoring system was developed to bridge the gap between home and school. Results of the practicum show that parents learned the value of math homework, homework monitoring system were administered. Results of parent evaluation shows that parents who learned the value of math homework began to accept more responsibility for encouraging their child to do schoolwork at home, and learned math teaching methods. Through this parental involvement, 41 out of 51 students raised their rate of consistent homework return, and this, in turn, resulted in an increase in their math test scores and overall mathematics grades. The appendices include survey materials, parent workshop transparencies and materials, newsletters, teacher homework data sheets, and letters. Fifteen references are listed. (Author/YP)

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PRACTICUM APPROVAL SHEET

This practicum took place as described.

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May 10, 1989

This practicum report was submitted by Jeanne Mills under the direction of the adviser listed below. It was submitted to the Ed.D Program in Early and Middle Childhood and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Nova University.

Approved:

July 2, 1989
Date of Final Approval of Report

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Increasing Parental Awareness Of The Importance Of Math Homework For Third Grade Students

by

Jeanne Mills

Cluster XXIX

A Practicum I Report presented to the
Ed.D Program in Early and Middle Childhood
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Education

NOVA UNIVERSITY

1989

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ABSTRACT

Increasing Parental Awareness of the Importance of Math Homework for Third Grade Students. Mills, Jeanne M., 1989: Practicum Report, Nova University, Ed.D. Program in Early and Middle Childhood.
Descriptors: Parent Responsibility/Parent Participation/Parent Workshops/Parent-School Relationships/Student Responsibility/Math Homework/Math Assignments/Math Instruction/Math Basic Skills/Primary

This practicum was designed to get parents of third grade students more involved in the math homework process. The primary goal was to enlist parents' help at home in the teaching of responsibility and time-management skills, and in the monitoring of the completion and return of this homework. A second aim was to increase the students' overall math achievement through this consistent interaction between home and school.

The writer administered a needs assessment survey to third grade math students, their parents, and their teachers to determine each group's opinions about math homework. Next, she held a parent workshop on the research-based importance of math homework and had parents rate themselves on how much time they spent with their child at home on math homework. She then sent newsletters to parents to familiarize them with current teaching practices in specific math concept areas. Finally, she developed a math homework monitoring system which was designed to bridge the gap between home and school.

The results were very positive. Parents learned the value of math homework, began to accept more responsibility for encouraging their child to do schoolwork at home consistently, and learned math teaching methods which were currently being used by the child's math teacher. Through this parental involvement, 41/51 students raised their rate of consistent homework return, and this, in turn, resulted in an increase in their math test scores and their overall math grades.

CHAPTER I

INTRODUCTION

Description of Work Setting and Community

The community in which this writer's work setting is located has grown from one family to more than 25,000 people in the last 110 years, with much of this growth occurring in the last 18 years. The area has developed commercially in leaps and bounds, which accounts for the change from a quiet, sparsely populated retirement community to one which draws a variety of businesses and people. Gone is the small fishing village which attracted mostly fishermen and spongers to its shores. And gone are the sawmills and turpentine stills which played an important role in the economy of the town. Though there are still a number of elderly people living here, this coastal region bordering on the Gulf of Mexico is no longer known primarily for its high retirement age population. According to 1980 Census figures, only 36% of the residents living in this community are over 65 years of age.

The majority of residents are families with children and working parents. Most of the families are year-round residents, but a small portion of them move their children from the writer's school to other schools after the year has

already begun, due to job change demands or their inability to meet financial obligations. This accounts for the transience of a small percentage of the school's student population. The majority of families living in this school district are of average income, with the remainder being of below average income. Although the parents have good intentions, some do not spend as much quality time with their children as they perhaps should. Only 12% of the parents of these students have had any advanced education beyond high school. Therefore, education is sometimes not a high priority for their own children. Due to the number of families in which both parents work, the writer's school offers a Latchkey Program for before and after school supervision of the children of these families. Thirty-four percent of the student population meet eligibility requirements for free or reduced lunches, due to financial need.

Writer's Work Setting and Role

The present school building has been in existence for 20 years. Its design is not modern and its classrooms are completely self-contained within their own four walls. This is in sharp contrast to most of the other elementary schools in the writer's county, which are newly constructed, open-space buildings, having modern work areas and an abundance of new equipment. Much renovation has been needed over the last 20 years to maintain even a minimum of upkeep.

Repair work is ongoing still, with a new roof having been under construction for 7 months of this school year and bids for a completely new media center and teacher work area on hold. However, in spite of the inadequate accommodations of this work facility, teachers and administrators work together and do an excellent job of teaching children.

The current school enrollment of 724 students is comprised of 96% White/Non-Hispanic children, 2% Hispanic children, and 2% Asian/Pacific children. Although the enrollment is fairly stable now, it was not so stable 11 years ago, when the writer was first hired to be part of the faculty. In taking a poll of sixth graders last year, it was found that 42% of them had attended this school for five or more years. Since 35% was the rate 11 years ago, this represents a 7% increase in the stability rate. These polls are taken every 10 years during the Southern Association of Colleges and Schools (SACS) 10-Year Study.

The factor which allows this school to operate so successfully in spite of its inadequate physical facilities is its staff's stability and years of experience. In all of the years which the writer has been on staff at this school, only 10 classroom teachers have been hired after her. In other words, out of the 28 classroom teachers on staff, 18 of them, including the writer, have remained a part of the working faculty. This is indeed unusual for schools today. Of these 18 teachers who have been at the school as long as or longer than the writer, 11 of them are still teaching the same grade

level. In a poll taken last year, it was found that the average number of years taught at the writer's work setting (per individual teacher) was 10 years. To demonstrate the number of veteran teachers on the writer's faculty, the same poll confirmed that the average total years of teaching experience per individual teacher is 16 years. Not only is the faculty stable, but it is also comprised of teachers who have a vast amount of teaching experience, collectively, and who possess a wealth of ideas to share with each other. This faculty is very much attuned to the needs and rights of its students and has a reputation for speaking out, when necessary, as advocates of children's rights.

The writer is certified in the following areas: early childhood, elementary education, curriculum and instruction, and administration and supervision. She has taught first grade for 13 years and third grade for four years, counting this year. This is the third year she has served as grade-level chairman of third grade at her school.

The writer has had several opportunities to work with other faculty members in a leadership capacity. She has been a supervising teacher for intern teachers from the University of South Florida, has worked in a supervisory capacity as primary (K-3) peer teacher for beginning teachers under the auspices of the Florida Beginning Teacher Program, has chaired several school-wide committees, and has made presentations to other coworkers, both on the school level and at a state reading convention. She is a qualified observer in the

Florida Performance Measurement System (used to assess teachers' professional growth), and she is a trained Classroom Collegial Coach, whose job is to train her faculty (in a 10-hour inservice) how to become familiar with the new assessment techniques and to set goals for themselves by filling out their own personal Professional Development Plans.

Because the writer has been a member of the faculty for so many years and has good relationships with administrators and other faculty members, she encountered no problems in acquiring their support and cooperation in this project.

CHAPTER II

STUDY OF THE PROBLEM

Problem Description

The problem which existed in this writer's work setting was that students were not getting enough support, encouragement, or academic assistance from their parents to complete and return math homework assignments in a timely fashion. Many of them turned their work in sporadically, some turned it in frequently, but others did not turn it in at all. Since the targeted student population for this practicum included math students with average and above average abilities, the teachers felt that these students should be showing more responsibility about consistently turning in completed work.

The current policy regarding homework return in math, agreed upon by all three third grade math teachers, was that all homework was due the day after it was assigned, with the teacher keeping a daily record of it in her gradebook. The children were told at the beginning of the year that they would receive a zero for every homework assignment that was not turned in by the second day and that they would be were sent to study hall rather than recess to complete the missing work. They could either take it to their math teacher as soon as they completed it that day or give it to her at the beginning of the math period the following day. If they

returned it that day or the second day, a check mark was placed inside the zero and credit was given for completing the work. At the end of the grading period, points were added to their final average for the number of assignments returned the first day due and points were subtracted for the number of zeroes accrued. If assignments had been completed one day late and a check mark was inside the zero, no points were added or subtracted. With the study hall time given to students and an additional evening at home besides, the third grade teachers felt that they were being more than fair in allowing for household emergencies, family outings or obligations, and children's extracurricular activities which often prevented many children from returning their homework the day it was due.

Although this system was somewhat workable, the teachers felt that larger numbers of students would fulfill their homework responsibilities consistently if there was more parental involvement in the homework process at home. And, without nightly reinforcement at home, these students eventually would fall behind in classwork due to a lack of extended practice. Without parental insistence upon the utilization of time management and study skills at home, these same students would feel little or no motivation to do the assigned work or to return it to class. Ultimately, their grades would suffer as would their attitude toward math.

Even though the third grade teachers did their best to emphasize the importance of math homework, assign it

appropriately, monitor its return consistently, and provide feedback on its accuracy, there was still that very necessary ingredient missing: parental involvement. Therefore, the problem was that children were not getting enough help at home with the monitoring of math homework return. This prevented those children who did complete and return homework consistently from moving through the curriculum as quickly as they could be and forced the entire class to move at a slower pace than they were capable of moving. The fact that many of the students were not continuing at home the practicing of skills learned in school slowed down their mastery of these skills and concepts, thereby forcing the teacher to spend extra time reinforcing skills in the classroom.

Problem Documentation

The writer conducted three surveys to document the existence of this problem. She surveyed third grade students in the two targeted math groups, their teachers, and their parents. For her teacher survey (see Appendix A), she included only two of the three third grade math teachers, those who taught the average and above average math groups. She excluded the teacher of the low math students because that group did not get assigned math homework on a regular basis and they moved at a much slower pace.

The targeted teachers kept daily records of homework return in their gradebooks. They wrote down the names of all

children who had returned their homework the first day it was due. Out of the 60 targeted students, it was found that only 26 of them had a perfect record for homework return (43%). Of the 60 students, only 18 of them received an "A" on their report card for Quarter I (30%).

In the student survey (see Appendix B), the math students were asked several questions about math homework, about their own personal beliefs concerning math in general, and about their assessment of their own responsibilities and abilities regarding math homework return. Their most popular answers were (a) 35/60 said that they always did their homework, (b) 40/60 said that they received help from one or both parents, (c) 33/60 said that sometimes their parents knew how to get the answer to the problems, but could not show them how they arrived at their solution, (d) 32/60 said that their parents usually did not know how to help them in the same way that their teachers taught them in class, (e) 35/60 said that they often felt more confused when their parents tried to help them with their homework, and (f) 33/60 said that when they did not have their homework to turn in, it was usually due to the fact that they forgot to bring it to school, not because they did not do the work.

The writer felt that although the students did make an effort to reply honestly to the survey questions and did take it seriously, several of those students who rated themselves highly in consistent homework return were the very students who were the most inconsistent in turning it in, thus

inflating the overall percentages of the total group. It should be noted that those 41/60 (67%) who said that they always did their homework are in contrast to the teachers' figures, which reflect only a 26/60 (43%) consistent rate of return. It was interesting that a large percentage of the students forgot to bring their homework to class, admitted that they felt confused when their parents tried to help them with their homework by old methods, and realized that their parents could work the problems through and reach a correct solution, but could not explain the process to them. These responses verified several important causes of the writer's problem: lack of responsibility and organizational skills on the part of the students, and parents' unfamiliarity with current math teaching methods, lack of knowledge about why specific processes are used, and their lack of confidence to help their children using the methods with which their children learn math in school.

Letters and surveys (see Appendix C) were also sent to all parents of the 60 targeted math students to determine whether or not they felt math homework was important, whether or not they felt that their child could benefit from learning organizational skills and responsibility, whether or not they felt it advantageous to be more familiar with current math practices, and whether or not they felt that student achievement and attitude improve when the school and the home work together.

Of the 60 homes polled, the writer was pleased to see 54

surveys returned, or nine out of every ten returned. (The writer will refer to 60 parents rather than 120 throughout her report, as she has counted only one parent as being representative of each child.) The most popular responses were (a) 57/60 felt that math homework was important, (b) 47/60 felt that math homework was assigned appropriately in third grade, (c) 44/60 felt that their children were very responsible about doing and completing math homework, (d) 36/60 felt that their children organized their time well and planned enough in advance to complete homework every night, (e) 32/60 had had negative math experiences in school themselves, (f) 38/60 either tried to teach their children by the methods they had learned in school or stated that they could find the answers, but couldn't explain the process to them, (g) 58/60 felt that it was their responsibility as parents to provide a home environment that encouraged good study habits, but 44/60 admitted that they did not consistently demand it, (h) 32/60 felt that both they and their children needed to learn more self-discipline in home study habits, (i) 49/60 felt that they could benefit from information concerning current teaching methods in math, (j) 44/60 felt that they would be willing to attend parent workshops to learn ways to help increase their children's math achievement, (k) 56/60 felt that they would be willing to work with their children's math teacher on a homework monitoring system, and (l) 58/60 felt that when the school and the home worked together, the children benefited, both in attitude

toward math and in math achievement.

The writer was very pleased with these responses and felt that they emphasized the parents' lack of understanding of current math teaching practices, their realization that their children needed to become more responsible about returning math homework on time, their willingness to work with the school to improve their children's attitude and math achievement and to overcome their own negative feelings about math, and their desire to make their own time scheduling at home more efficient. However, the writer did feel that the parents overrated their children's abilities to return homework responsibly and consistently (44/60 said that they thought their children always returned homework responsibly in contrast to teacher records of only 26/60 showing a responsible rate of return).

Causative Analysis

The writer felt that there were several causes for this problem. First, some parents did not feel comfortable using current math teaching methods. Rather, they felt more confident teaching their children by those methods which were similar to the ones used when they were students. This often caused their children to feel confused, which, in turn, frustrated both the children and the parents. Parents who got extremely frustrated gave up and left the children to learn it on their own, or they ended up blaming those around them,

especially the teacher and the school system. Parents who patiently tackled the problem, using their antiquated practices, eventually taught their children to solve the problems, but this caused their children to feel uncomfortable in the classroom because their methods were not like those of the teacher or their peers. Therefore, they were forced into using one method at home to please their parents and another at school in order to feel accepted by the group. Often, when the children were torn between these two well-meaning factions, they became so thoroughly confused that their grades began to suffer or they lost interest entirely and began to dread math period, viewing it as a conflict area in their day.

Second, some parents may not have been stressing the importance of math homework because negative math experiences "colored" their opinions on the subject. No parents feel comfortable trying to help their children in an area in which they themselves were unsuccessful in school. In teacher conferences, parents often openly admitted that their own math skills were far from being proficient, that they always hated math, or that they had always had a mental block against it. When they were in school, it was common practice for math to be taught with the emphasis placed on the product, not the process. That explains why parents of today have difficulty telling their children how they arrived at a solution the way they did. Nor are they comfortable using concrete objects or pictures to help clarify their children's understanding of math concepts. For these reasons, it would be unthinkable for

us, as teachers, to assume that parents who are experiencing these feelings of self-doubt would be able to help their children consistently with their math homework.

Third, parents did not take the time to help their children with their math homework because of busy time schedules at home, work-related activities at night, or fatigue. Most of the students at the writer's school lived in homes where both parents worked. Some of these parents did not have a sufficient amount of education to acquire jobs which offered them decent working hours; rather, they secured the only positions available to them at their level of expertise and accepted these undesirable work schedules. This left their children unattended after school or in the care of a babysitter who was probably not very motivated to help them with their homework. Of the parents who did secure jobs with decent working hours, many were too tired to help their children when they arrived home from work, they had too many children with similar needs, they had work-related obligations of their own, or they simply chose to use this free time for their own leisure activities. Regardless of their reasons, the children and the school were left without parental support or encouragement to assume the role of meeting their educational needs.

Fourth, parents did not always provide a quiet work area in the home. Nor did they demand that their children spend a specific amount of time nightly on school-related work. Although 58/60 of the parents polled readily agreed that it

was their responsibility as parents to see to it that they provided a home environment which encouraged good study habits for their children. 44/60 admitted that they were not reliable about monitoring it consistently. Many parents whose children attended the Latchkey program, housed at the writer's work setting before and after school hours, allowed the Latchkey personnel to assume their parental responsibilities in the area of homework. Other parents, who were home when their children returned from school, did not demand that the homework be done for reasons listed before such as disinterest, lack of confidence of their own abilities in math, fatigue, or lack of organizational skills as adults. (The third grade teachers found it very difficult to teach children to be organized with their own time out of school when there was no example being set in the home.)

Fifth, parents who did not involve themselves in their children's school-related activities sometimes did not do so because they did not feel that the teacher wanted them to interfere in her teaching. Although some parents would have very much liked to help out in the classroom or get more involved with their children in school-related activities at home, they wanted their help to be actively solicited by the classroom teacher. If it was not actively solicited, they felt that their help was not needed or welcomed.

Sixth, the students did not apply themselves in school to the degree that they should be expected to by their parents. They often did not listen attentively when work assignments

were being given, did not copy down assignments for that night even though encouraged and reminded by their teacher to do so, did the wrong assignment, or did the right assignment and forgot to bring it to class the day it was due or the following day. Once it was lost, they were unmotivated to redo it; rather, they would accept a zero.

The two teachers surveyed both felt that these traits were more commonly being seen in young children today, even those in the high and average math ability groups. It was hard for them to identify the basis for this problem, but they felt strongly that parental involvement at home which supported the school's goals would eliminate much of the inattentiveness and lack of motivation on the part of their children when they were in school. Many of these children, when asked where their homework assignment was, gave true responses which demonstrated their apathy, while others gave totally outlandish excuses which they knew would not be acceptable, but did not seem to care that they would have to suffer a consequence for this irresponsibility. It was difficult for the teachers to observe these capable children displaying this apathetic attitude toward their school responsibilities and making no effort to complete their homework. Their self-motivation was so poor or they were so used to being totally unsupervised at home that they did not see the importance of completing and returning assigned work. Even losing their recess the following day didn't seem to inspire consistent positive changes in their behavior or

attitude toward homework return. Since these average and above average students will be the leaders of tomorrow, it concerned the third grade teachers at this writer's school that their grades soon would begin to drop because of this inattention, lack of interest and motivation, and the absence of smooth exchange between home and school.

Relationship of Problem to Literature

Much of the research done in this problem area was broad based and related solely to parental involvement and its importance in all school-related areas. Earlier, the writer stated that her problem was that parents did not encourage their children enough in the area of math homework return. Though this problem was narrow in scope in that it dealt with only one small educational aspect, it was related to the lack of parental involvement and the effects this had on children. This lack of parental involvement did nothing to further the school's goals and objectives; rather, it hindered their attainment. The issue of parental involvement encompassed a broad range of activities, all of which sought to bring together in some way the domains of school and home.

Practitioners, researchers, and policymakers all consistently stated that parental involvement in their children's learning was recognized as an indicator of an effective school. Children who had the added advantage of their parents' encouragement and support in their

school-related activities showed significant gains in achievement, attitude, and development.

In a survey done at Johns Hopkins University, Epstein (1984) learned that (a) teachers who actively involved parents in their classroom learning were more likely to have parents who not only helped their child more at home on school-related activities, but who were also willing to work toward improving the school and its programs, (b) parents whose children were in classrooms where the teachers built parental involvement into their regular teaching practices were more aware of those teachers' skills and talents, knew more about their own children's educational program, and, therefore, rated these teachers higher in interpersonal skills and overall teaching quality, and (c) parents of students in the lower elementary grades (K-3) were more often encouraged by their children's teacher to become actively involved in the school than were those parents of upper elementary, middle schools, or high schools.

According to Davies (1987), the education of children should be viewed as a joint effort - a partnership between the school and the home - and that if parents and teachers do not act as "coproducers" of children's education and socialization, there will be gaps in their development. He stressed that students and their parents should not accept the roles of passive participants who are merely receiving educational services, but rather, they should become actively involved in the process. Davies did qualify this opinion,

however, by stating that this joint effort, or coproduction, would not be truly effective unless initiated by teachers and administrators in the schools and coordinated by the school itself.

McAfee (1987) believed that administrators must provide the needed leadership to emphasize the fact that only homes and schools working together could create truly effective schools and generate quality education for our nation's children. He saw this lack of parental involvement as a serious problem which affected all students and all schools. He also felt that teachers and administrators had not been given enough training or staff development to help in achieving a home-school partnership which was both worthwhile and necessary. He criticized local school boards for not offering the schools funding, time, space, and additional personnel to accomplish this.

Cattermole and Robinson (1985) felt that strong communication links between the school and home established shared goals and built support for and commitment to the schools and their educational objectives. When parents did not support the schools' efforts through homework, they were not sharing in school goals or demonstrating commitment to educational objectives.

Epstein (1987) felt that parental assistance was not offered in the home because teachers did not take the initiative to actively involve all parents. She stated that parents felt that teachers only asked for assistance from the

parents who already knew how to help their children rather than trying to teach the other parents how to help their children with learning activities at home. This type of parental involvement was badly needed in the schools, Epstein felt, and took the form of teacher requests which contained instructions for parents to assist their children at home with learning activities which were directly related to their schoolwork.

Henderson (1988) said that children whose parents helped them at home and who maintained close contact with the school scored higher on tests than children of similar aptitude and family background whose parents were not involved. She viewed the problem as being that teachers and administrators did not help parents to provide a positive learning environment at home. She felt that they were ineffective parent educators, which negatively influenced their children's success in school due to the lack of parental involvement. Henderson stated that although it was a known fact that gifted children nearly always had supportive parents and home environments which demonstrated an enthusiastic interest in every aspect of their children's development, it was also true that low-income, low achievers whose parents were counseled in positive home teaching techniques made significant, lasting gains in intelligence.

Aubey, Fehrmann, Keith, Pottebaum, and Reimers (1986) did a study on the direct and indirect effects of parental involvement, television viewing time, and homework on high

school seniors. They found that parental involvement was important and had both direct (through participation in learning activities at home) effects and indirect (through encouragement of better study habits) effects on student achievement. They felt that parents who took a more active role in their children's educational and social lives were more apt to encourage them to study harder. Their findings also pointed out that homework, although found to be a powerful influence on student achievement, seemed to be largely neglected and should not be ignored or forgotten in any push for educational improvement.

Paschal, Wahlberg, and Weinstein (1985) felt that the "curriculum of the home" affected academic learning twice as much as did the family's socioeconomic status. Homework that was graded or commented upon raised learning from the 50th to the 79th percentile. This graded homework effect was among the largest ones discovered in educational research literature. The research for arriving at these conclusions began with computer searches of the databases of the Educational Resources Information Center and Dissertation Abstracts International.

In a study done by Bailey and Foyle (1985), it was found that both preparation and practice homework raised students' achievement and performance, as compared with students who were not assigned homework. This substantiated the fact that poor grades often resulted when parents did not encourage completion of homework or monitor its return.

Bliss (1986) reported that although parents she surveyed felt anxious for their children to do well in math, they, at the same time, felt ambivalent about offering their help to them, given their own previous math experiences and level of expertise. She felt that this was one reason why parents did not involve themselves in their children's education more frequently. They were fearful of teaching them incorrectly and lacked the confidence to seek out the teacher for advice.

In conclusion, there was increasing agreement that meaningful, consistent involvement of home and school must be an integral part of the schools' educational programs in the future. It is only right for schools to expect parents to fulfill their end of the home-school partnership. But, it is also right for parents to expect teachers to provide them with clear, concise communications which offer them guidelines for continuing their children's school curriculum in a meaningful way at home through learning activities and homework. When the two domains of school and home work together to provide a unified approach to children's learning, everyone benefits from this combined effort.

CHAPTER III

ANTICIPATED OUTCOMES AND EVALUATION INSTRUMENTS

Goals and Expectations

The major goal of this practicum was to get third grade parents more involved in their children's math homework. Through continuous parental support at home, the children would improve their time-management skills and become more responsible for the completion and return of math homework. Through this consistent interaction between home and school, parents would learn more about math curriculum in the school and see an increase in their childrens' overall math achievement.

Behavioral Objectives

The implementation of this practicum was done in three phases. Phase I dealt with parental commitment at home in the areas of study habits and time-management skills. Phase II dealt with the familiarization of parents with today's math methods in the content areas. Phase III dealt with teachers and parents working together on a homework monitoring system. The following objectives were projected for this practicum: Objective One - (a) Eighteen out of 60 (30%) of the parents of the targeted math students will attend a parent workshop on the importance of homework and be shown research-based evidence (see Appendix F) to support this theory. At the same

workshop, they will be given a parent contract (see Appendix G) and three follow-up rating scales (see Appendix H) to be returned on the next three Fridays, (b) Nine out of ten of those parents present will sign a contract to demonstrate their commitment to helping their children improve their rate of homework return, (c) An average of seven out of ten of the parents who signed contracts will return their weekly rating scales and remain committed to their contractual parental responsibilities,

Objective Two - (a) An average of 36 out of 60 (60%) of the parents of the targeted students will supply the writer with feedback from newsletters they receive which offer them tips on how to teach specific content areas to their child, (b) Of those who provide feedback, it is hoped that as many as 60% will report that they used the suggested practices and found them to be helpful,

Objective Three - There will be a 50% increase in the average rate of CHR (consistent homework return) of students in Quarter III, as compared to those same students in Quarter II. (It is anticipated that the total number of 60 may change due to attrition rate in both math groups.),

Objective Four - Through the addition of the element of consistent, monitored parental involvement, student achievement will increase. Specifically, 24 out of the 60 targeted math students (40%) will either maintain a grade of A or B or increase (by one or more letter grades) a grade of B, C, or D from Quarter II to Quarter III.,

Measurement of Objectives

To measure whether or not the writer achieved her objectives, she employed the following analysis techniques:

Objective One: (a) She took a count and recorded the number of parents in attendance at the parent workshop to see if 18 out of 60 (30%) attended, (b) She then counted the number of contracts signed by those present to determine whether or not her goal of nine out of 10 was attained. These results are compiled in narrative form in the final report, (c) The writer then tallied the number of follow-up rating scales returned on each of the three following Fridays to determine whether or not an average of seven out of 10 of those who signed contracts (1) returned their rating scales, and (2) remained committed to their contractual responsibilities. These results are analyzed through the use of a table.

Objective Two: (a) The writer tallied the number of detachable feedback sheets from the parent newsletters to ascertain whether an average of 36 out of 60 (60%) of the targeted parents returned the four forms and found the suggested activities to be helpful, (b) She compiled the results of the parents' closed-ended questions and clustered their suggestions into topic areas. Data from both (a) and (b) are recorded in table form.

Objective Three: The writer used data recorded on the Teacher Homework Data Sheets from both math teachers to determine whether or not CHR (consistent homework return) increased by

one-half from Quarter II to Quarter III. (Both of the math teachers had been given these sheets at the beginning of the school year and recorded CHR for all three quarters because the writer had originally intended to use data from Quarter I.) These results are displayed in the form of a bar graph. Objective Four: In order to consistently judge parental involvement of all students, the writer designed a sheet where the student wrote each daily assignment down. Parents had to sign it when they saw the work completed. This sheet was returned each day and taken home each night for four weeks. Through a structured, consistently monitored homework return system such as this, she could more fairly judge whether or not parental involvement did increase students' math achievement. She then took information from the Teacher Homework Data Sheets and compared student grades from Quarter II to Quarter III to determine whether her goal of 24 out of 60 (40%) of the students either maintained in Quarter III a grade of A or B, or improved (by one or more letter grade) a grade of B, C, or D from Quarter II. This data is recorded in chart form.

CHAPTER IV

SOLUTION STRATEGY

Discussion and Evaluation of Solutions

Suggestions for solutions to this problem were offered by many researchers. Most of their solutions were excellent, but for one reason or another, would not have been suitable for use in the writer's work setting.

Epstein (1988) listed five necessary types of parental involvement. The first type was the basic obligations of parents to their children's health and safety, the teaching them of life skills, and the building of a positive home environment. The second type was the basic obligations of the schools to vary the form and frequency of communications to parents. The third type was the involvement of parents in the school facility as paraprofessionals or volunteers. The fourth type was parental involvement in learning activities at home such as enrichment or extension exercises in addition to homework. The fifth type was parental involvement in the advocacy and governance of schools in the form of decision-making roles.

Type One was not really the direct responsibility of the schools, although much of a teacher's time is devoted daily to taking care of the emotional, physical, and moral growth of the children she teaches. Type Two was already being done in

the writer's work setting frequently by both the administration and by the third grade teachers. Type Three was carried on in the writer's school to some degree, but did not solve the problem of bridging the gap between the home and the school. Type Four was already being implemented in the writer's school facility. Enrichment and extension activities were offered through a Math Superstars program which was implemented and coordinated by a volunteer (with the classroom teacher disseminating the activity sheets and keeping them in a folder for weekly pickup and checking). This program was voluntary, and many of the writer's targeted students who initially participated in it were beginning to drop out due to lack of interest and/or motivation. Type Five was not at all related to the writer's problem area, since curriculum guides and teachers themselves made the decisions regarding skills to be taught in math.

Epstein (1988) went on to say that most schools could improve in all five areas, and the writer agreed with her. However, improvement would require a planning process which would begin with an assessment by each school of its strengths and weaknesses, needed directions, and goals to be distributed over a period of years.

According to McAfee (1987), although schools sincerely tried to achieve better school-family relations and more parental involvement through parent communications, parent volunteers, and parent conferences, these approaches were not sufficient in and of themselves. He felt that unless school

personnel adapted the proper attitudes, beliefs, knowledge, and skills to do what was required of them, parental involvement methods would not be as beneficial to schools as they should be. He advocated staff development for teachers, specialists, and support staff members for the purpose of mutually designing an overall plan which focused on resources, commitment, and incentive to change the current parental involvement methods in existence today in the schools. He stressed that this inservice should be ongoing, cumulative, and a permanent part of the school's total program.

The writer agreed that this would be the most comprehensive solution to the problem of parental involvement. However, she recognized that she did not have the power to be a change agent to this extensive degree. Her school district lacked the time and money for staff development in the area of parental involvement since their budgeted programs were geared more toward classroom instructional techniques and stress-management training. And, with most teachers struggling against time to complete their daily responsibilities, parental involvement would probably fall to the bottom of their list of inservice priorities.

Epstein (1986) reported from a survey she conducted at Johns Hopkins University that fewer and fewer teachers helped parents become involved in the school's goals as the students advanced through the elementary grades. She advocated the development of parents' helping skills over the continuum of school years up through high school rather than the tapering

off of teachers' requests for parental involvement after the primary grades as was usually done. Though the writer agreed that this was a valid point and one worthy of further exploration, she did not consider it to be a feasible one for her problem area. She was concerned only with a narrow population of third grade average and above average math students.

Davies (1987) proposed the increase of parental involvement through the process of "coproduction", or individual and collective activities in school or at home that contribute to more effective instruction and pupil achievement. One of the coproduction plans he reported on was called Parents in Touch, a comprehensive, multifaceted districtwide effort aimed at improving the image of public schools and community support of them. This program was coordinated by a widely representative community advisory council. This Indianapolis district invested a substantial amount of time and money each year in this effort, from both local and federal sources. For this reason, the writer rejected this solution as workable in her work setting.

Davies (1987) also cited several positive models of citizen advocacy involvement as being more examples of coproduction. Advocacy for Children of New York worked on issues affecting the rights of poor, handicapped, or minority students. Schoolwatch, Inc. in Trenton, New Jersey, was a nonprofit statewide coalition of business, civic, and religious organizations which monitored the implementation of

state education laws. Though the writer felt that advocacy for children's rights was a commendable way for parents to become involved, it did not provide a workable solution to her problem since it did not deal with school-related learning activities.

Merttens and Vass (1987) reported on an interventionist project called IMPACT, which was used in 10 London elementary schools. Specific math activities were isolated which could be done at home, but which were directly related to the children's school curriculum. Learning materials were designed for home use and given to the teacher for appraisal before being sent home. Most of the learning activities were concrete and involved active participation of the children in real life situations. Through this parental involvement approach, parents became aware of the dangers of teaching their children skills which were not transferable to real life situations. The writer felt that this was a very innovative and effective parental involvement approach, but she recognized that her school district would not have the resources available for such an ambitious project.

A survey involving parents and local superintendents and school-based presidents was conducted by Chavkins and Williams (1987). The study was undertaken to develop guidelines and strategies for training elementary teachers in the area of parental involvement. Survey results indicated that there seemed to have been a preponderance of traditional parental involvement with very little evidence of shared

decision-making activities. Administrators did not feel comfortable with parents making decisions about the hiring and firing of employees, the evaluating of school staff, or budgetary planning. In analyzing the results, the authors stated that administrators should involve parents in both traditional and shared decision-making forms of parental involvement and that they needed to collaborate with parents to develop clear statements about parental involvement goals. The writer felt that it may have been a bit idealistic to think that parents and administrators should share in that many decisions, especially those involving staff problems. She also recognized that an administrative solution to parental involvement would not be necessary or useful in her problem area.

Dunn (1984) proposed a six-week homework experiment which capitalized on two learning style characteristics: perceptual strengths and time of day best suited for optimum learning. The experimenter used the LSI (Learning Style Inventory) to discover how students were best able to learn and remember new and difficult information. The students were taught to interpret their own scores, do their homework in accordance with their perceptual and time of day strengths, and then compare the first three-week grades to the second three-week grades. The writer did not feel that her third graders would be mature enough to handle the responsibility of analyzing the learning style best suited to helping them with homework.

Description of Selected Solution

Although none of the above approaches were perfectly adaptable to the writer's situation, several of them had suggested strategies from which the writer could utilize parts in the designing and selecting of her own solution. She pulled part of her solution strategy from Davies (1987), who recommended that parents and teachers work together to coordinate activities between the home and school so that more effective learning occurs. She pulled ideas from Merttens and Vass (1987), who advocated isolating specific math activities which could be done at home, but which directly related to the curriculum taught in school. In addition to drawing from these partial solutions, the writer developed other means of communication in order to encourage and solicit parental involvement in the math homework process.

Report of Action Taken

First, she offered a parent workshop in which she discussed the research-based importance of math homework and its positive correlation to math achievement (see Appendix F) and presented them with tips on time management and study skills. At the end of the workshop, a parent contract (see Appendix G) was distributed to all those present. Signing of this contract signified the parents' commitment to helping

their child become more responsible about returning math homework. For the next three weeks of the first month of implementation (Weeks Two-Four), the parents were asked to fill out and return a self-assessment rating scale (see Appendix H) every Friday. This form provided feedback to the writer as to how the individual parents of the targeted students rated their own personal weekly commitment to their contractual responsibilities. They rated themselves from zero to five and commented on the ways in which they could improve the following week.

The writer's second solution strategy occurred in Part Two of the implementation phase (Weeks Five -Eight). It involved the dissemination of weekly newsletters to offer parents concrete and current methods for helping their child work math problems in the specific content areas. Newsletter One (see Appendix J) dealt with the area of place value, Newsletters Two and Three (see Appendices K and L) dealt with the area of subtraction with regrouping, and Newsletter Four (see Appendix N) dealt with the area of problem solving. Activity sheets were attached to each newsletter and parents were encouraged to work through the problems with their children so that they could learn the currently used math methods at the same time as their children were reviewing the skills. Parent input was obtained through the use of written comments on a detachable form at the bottom of the newsletter page. The newsletters were sent home on Mondays and the writer requested that the feedback form and activity sheet be

returned the following Friday. This detachable form (see Appendix O) included two closed-ended questions and three open-ended feedback questions designed to elicit parent comments which would explain in detail why or why not the information offered was helpful. As an added incentive for obtaining more widespread parental involvement, the writer offered two extra credit points to those children who returned both requested forms on time each Friday. The two points were added to their weekly test score.

The writer's third objective dealt with the students themselves accepting responsibility for consistent homework return. A monitoring system was implemented in both third grade math classes to increase student responsibility, while at the same time eliciting the parents' participation in the homework process. The parents received a letter (see Appendix M) which explained the system to be implemented in the final phase of the practicum. The monitoring system required the mutual cooperation of the teacher, student, and parent. Folders were made for each of the targeted students. These folders contained forms (see Appendix P) to record daily assignments, a place for the parents to sign when they saw that their child had completed the work, and a line for comments and suggestions from the parents. The assignment was written in the box by the student daily. Teachers continued to record zeroes and check marks in their gradebooks as they did in Quarters I and II, but they requested that the students carry their homework folders home every night, do the

assignment, get their parent to sign in that night's box, and return the folder with their homework in it each day. The folders were collected on Friday so the teacher could make a comment to the parents and student about their involvement. Parents were also given a space to write down any comments or questions they had concerning that week's homework assignments. Suggestions on how the teacher could better present specific concepts were solicited and welcomed. Tips were also given to math students daily at the end of each math class on how to become more responsible as a student.

At the end of the last week (Week Twelve), the writer again collected the Teacher Homework Data Sheets (see Appendices Q and R) and compared consistent homework return figures from Quarter II to Quarter III. (Originally, the writer had planned to compare consistent homework return rates between Quarters I and III, but due to the fact that math concepts studied in Quarter I were merely a review of second grade skills, homework was not assigned as often for that reason. Also, the CHR would have been very high in Quarter I as compared to Quarter III when the work was more difficult and students sometimes looked for excuses not to do it.) Therefore, she chose to compare CHR and grades earned in Quarter II, when parent involvement was more on a voluntary basis, to CHR and grades earned in Quarter III, when parent involvement was more consistently monitored and more widespread. The students were given one extra credit point for each day they came to class with (a) their completed

homework and (b) their homework folder containing their parents' signature.

The writer's fourth solution strategy was implemented at the end of Quarter III. From the Teacher Homework Data Sheet, the writer took the students' grades from the end of Quarter III and compared them to their grades at the end of Quarter II to see whether she reached her expected objective: that parental involvement in the homework process, when consistently monitored between school and home, increased student achievement.

The writer did not experience any roadblocks that were detrimental to the implementation of her project. Although she was somewhat disappointed in the turnout of her parent workshop (20 parents signed up to attend and only 12 showed), she adjusted her thinking and reached a few other interested parents by sending the information, contract, and parent rating scales home with the children. Everything else went very smoothly and the writer did not have to deal with any unexpected events which may have prevented her from reaching her anticipated goals and objectives.

CHAPTER V

RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

Results

The results of this practicum will be discussed following restatement of each of the writer's individual objectives.

Objective One: (a) Eighteen out of 60 of the targeted math students' parents will attend a workshop on the research-based importance of homework.

Results: Twelve out of the 60 parents attended the workshop. Two more parents participated in the workshop vicariously by sending notes to the writer requesting the workshop materials, agreeing to do the followup activities, and explaining why they could not attend the meeting.

Objective One: (b) Nine out of 10 of those parents present at the workshop will sign a contract to demonstrate their commitment to helping their children improve their consistent rate of math homework return.

Results: All of the 14 parents who participated in the workshop signed a contract.

Objective One: (c) An average of seven out of 10 of those parents who signed contracts will (1) return their weekly parent self-rating scales, and (2) remain committed to their contractual parental responsibilities.

Results: Since Week One of Phase One of the implementation

period consisted of a parent workshop, the rating scales were done in Weeks Two, Three, and Four of Phase One.

Table 1 Return Rate Results

Week Two	100%	(14/14)
Week Three	93%	(13/14)
Week Four	100%	(14/14)

The writer was pleased to see a better-than-expected level of parental participation and return rate. In the three-week period, an average of 98% of the parents who signed contracts returned their parent self-rating scales.

In order to demonstrate the parents' commitment to their contractual responsibilities, the writer averaged their responses to each of the seven items on the rating scale. Commitment was determined by the number of parents who rated themselves per item with a 5 (always) or a 4 (usually).

Table 2 Totals of 5 or 4 Responses

Item 1	37/41	(90%)
Item 2	32/41	(78%)
Item 3	36/41	(88%)
Item 4	38/41	(93%)
Item 5	37/41	(90%)
Item 6	39/41	(95%)
Item 7	38/41	(93%)

The average of the parents who rated themselves with a 5 or a 4 was 37/41, or 90%. The three items which parents felt they had shown the greatest amount of commitment to were: Item 6 (check to see that my child completes the work), Item 4 (be available in case my child needs me), and Item 7 (remind my child to take the work to school the next day). It was interesting to the writer that more than an average of 70% of the parents rated their commitment as a 5 or a 4 on all seven items.

Objective Two: (a) An average of 36 out of 60 of the targeted math students' parents will supply the writer with feedback from the newsletters.

Results: On the parent comment form, there were both open-ended and closed-ended questions for parents to answer regarding suggested home teaching strategies and activities. Both types of questions were designed to elicit feedback to the writer about this type of parental involvement.

Table 3 Return Rate of Parent Comment Forms

Week One	37/51	(73%)
Week Two	39/51	(76%)
Week Three	31/51	(61%)
Week Four	31/51	(61%)

*Weeks One through Four in the above table are descriptive of Phase Two of the implementation stage.

Due to attrition, the original sample of 60 students

dwindled down to a total of 51 students who were present in both Quarters II and III. Therefore, the bottom number in the above results (51) represents the new total population.

An average of 35/51 (69%) returned the parent comment forms and offered feedback of one kind or another. Some parents' feedback consisted only of circling the "yes" or the "no" responses, while others took time to offer a written explanation as to why or why not the newsletters and activity sheets were helpful. Those who did not find them helpful did not stress to their child that these activities were to be done together. Rather, they allowed them to do them alone and practice errors. More often than not, these students had several errors on their activity sheets when they turned them in to be checked.

Conversely, the majority of parents offered positive feedback. Since a different number of parents responded with feedback every week, the writer used the number who responded (above) as the total number (below).

Table 4 Number of Parents Who Found Newsletters Helpful

Week One	33/37	(89%)
Week Two	36/39	(92%)
Week Three	27/31	(87%)
Week Four	29/31	(94%)

An average of 91% of those parents offering the writer feedback stated that they found the activities to be very

helpful. The writer felt confident that these parents were sincere in their responses because they gave written examples of why they found them to be helpful.

A detailed display of open-ended comments follows. These results were obtained by the writer grouping similar comments into clusters and tallying the number of responses which fell into each cluster. Each of the four specific content areas will be abbreviated for clarity. Place Value (PV), Subtraction and Regrouping (SR), Zeroes in Regrouping (ZR), and Problem Solving (PS). The parent comments were clustered and titled.

Table 5 Results of Open-Ended Responses

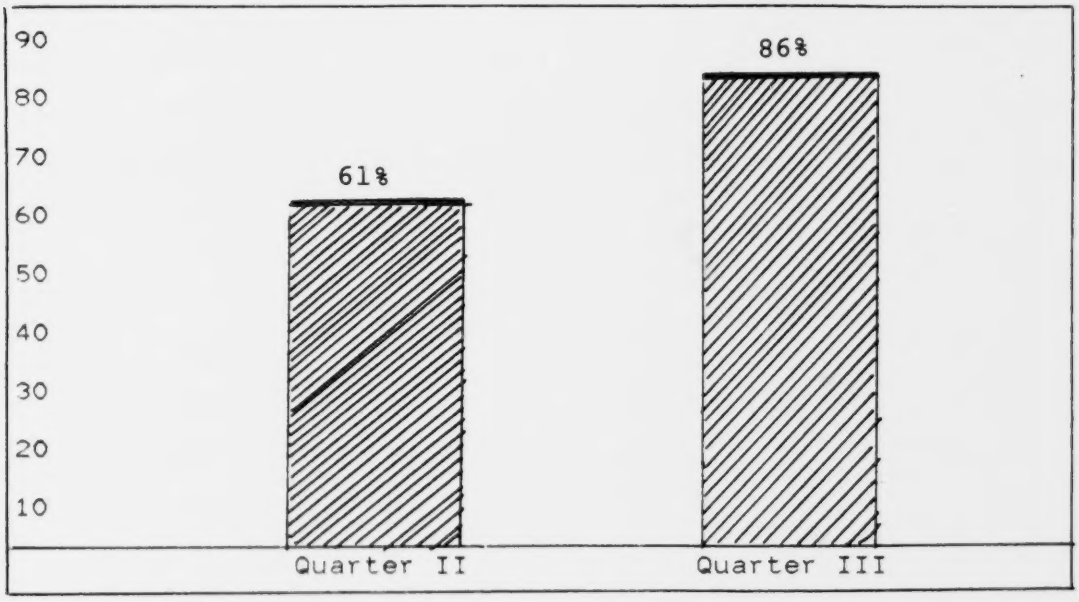
Made Process Clearer	(PV - 11)	(SR - 7)	(ZR - 9)	(PS - 5)
Good Reinforcement	(PV - 6)	(SR - 10)	(ZR - 6)	(PS - 9)
Explained " why "	(PV - 4)	(SR - 3)	(ZR - 6)	(PS - 5)
Taught "method"	(PV - 6)	(SR - 5)	(ZR - 3)	(PS - 3)
Taught terminology	(PV - 6)	(SR - 5)	(ZR - 4)	(PS - 7)
Offered Steps/Rules	(PV - 1)	(SR - 4)	(ZR - 5)	(PS - 8)
Quality Time Spent	(PV - 2)	(SR - 2)	(ZR - 3)	(PS - 6)
Made Child Check Work	(PV - 0)	(SR - 4)	(ZR - 6)	(PS - 3)

Many of the parents stated that they liked the writer's teaching style, appreciated all of the extra time and effort it took to write the newsletters and activity sheets, wished their children had received as clear an explanation in earlier grades, and felt closer to their children by having been

encouraged to spend quality time with them. One parent said that she would like to see newsletters and activity sheets in all academic areas so that she could be more familiar with how the concepts were being taught today.

Objective Three: The average of consistent homework return (CHR) of math students in Quarter III as compared to Quarter II will increase by one-half. (Since there was an attrition rate, the original 60 students decreased to a total of 51).

Table 6 Number of Students With CHR for Quarters II and III



In Quarter II, when parental involvement was primarily voluntary (through a workshop, contracts, rating scales, and the first two newsletters), the CHR rate was (30/51) 61%. In Quarter III, when the majority of parents were involved (through the last two newsletters and the homework monitoring system), the CHR rate increased substantially to (44/51) 86%.

system), the CHR rate increased substantially to (44/51) 86%. In Quarter I, the CHR rate had been 20/51 (39%). If the writer had compared Quarter I to Quarter III as she had originally intended to do, the CHR rate would have increased more.

However, since homework was not very frequently assigned at the beginning of the year, the writer decided to compare CHR rates in Quarters II (when parental involvement was voluntary) to CHR rates in Quarter III (when it was more structured, more closely monitored, and more widespread). Therefore, the anticipated increase in CHR rate was not attained.

Objective Four: Twenty-four out of the 60 targeted math students will either maintain a grade of A or B in both quarters or will improve (by at least one letter grade) a grade of B, C, or D.

Results: The writer had to readjust her population size from 60 to 51 due to attrition rate, so she used 40% as her anticipated outcome. Three tables will be displayed to show student academic gains.

Table 7

Number Maintaining Grades From Quarter II to Quarter III

Grade of A	9
Grade of B	14
Grade of C	5
Grade of D	1

Table 8

Number Who Raised Grades From Quarter II to Quarter III

Improved from B to A	9
Improved from C to B	3
Improved from C to A	3
Improved from D to C	3
Improved from D to B	0

Table 9

Number Who Dropped Their Grades From Quarter II to III

Dropped from A to B	3
Dropped from B to C	1
Dropped from C to D	0
Dropped from A to C	0
Dropped from B to D	0

*From the above results, the following totals were drawn:

Table 10

Total Grade Comparisons From Quarter II To Quarter III

Maintained Grade of A	9
Maintained Grade of B	14
Increased by One Grade	15
Increased by Two Grades	3
Total Who Met Objective	41

Since the writer's anticipated outcome was to see a 40% increase in the number of students who either maintained a grade of A or B, or improved by one or more letter grade(s), she included only those specific categories when reaching her total of 41. This total of 41/51 (80%) students who met the increased achievement objective shows a much greater than anticipated increase. Overall, the increase seen was 80% rather than 40%.

Overall Results: After sending a final letter to parents (see Appendix S) describing the results and thanking them for their participation and cooperation, the writer asked them to check the parental involvement area(s) which had been most helpful and meaningful to them. Though the writer felt that response would be light due to the overwhelming amount of cooperation she had demanded of them in the past in asking them to return surveys and other information-gathering sheets, almost half of the total group responded to her final survey.

Table 11 Response to Writer's Overall Survey

Parent Workshop	3
Parent Contract/Rating Scales	3
Newsletters/Activity Sheets	22
Homework Monitoring System	20

It was clear to see that the newsletters and homework

monitoring system (homework folders) were the most meaningful tools for obtaining parental involvement. In addition to selecting their favorite part of the writer's project, several parents wrote personal comments. One parent requested a monthly overview of areas to be taught, with suggestions for helping to reinforce these concepts at home. Another parent stated that she felt that parents sometimes felt isolated from "their children's world" at school. She went on to say that through this project, she had become more a part of her child's life at school and her interest in her child's education had risen accordingly.

Conclusions

Conclusions were drawn by comparing the writer's results with her objectives.

Objective One: (a) Although this objective was not met, the writer felt that low attendance was due to time constraints and home obligations, not a lack of interest. Fourteen out of the proposed 18 parents received materials from the workshop and participated in the follow-up activities. Although the number was low (14 out of 60), it was a normal turnout rate for parents of today, who lead busy lives.

Objective One: (b) The writer exceeded her anticipated outcome of nine out of 10 parents participating in this phase of her practicum. Of the parents who participated in the workshop, all 14 signed their contracts. This demonstrated

complete support and commitment.

Objective One: (c) In the three-week period following the parent workshop, the writer again exceeded her anticipated objective. Rather than seeing an average of seven out of 10 parents return their rating scales, the writer realized an average 98% return rate. The increase in the writer's predicted return rate demonstrated that this group of interested parents were very committed to fulfilling their contractual responsibilities. Since all three forms were given out at the workshop, only the return dates listed served as reminders. However, the responsibility of this small parent group could not be generalized to be representative of the entire population of 60 parents.

After tallying the number of parents who rated themselves 5 or 4 on their fulfillment of their contractual parental responsibilities on their rating scales, the writer was pleased to see an average increase of two out of every 10 parents committed to their obligations.

Again, although the writer exceeded this anticipated outcome, this parental commitment cannot be generalized to the entire population of 60 parents, since only 14 were participating in this aspect of the practicum implementation phase.

Objective Two: (a) Since the writer's original objective was that 36 out of 60 parents supply her with feedback from newsletters on specific content areas, it is necessary to explain why only a total population of 51 was used. Several

other schools within the same district, and a few had to be dropped to the slower-paced math group due to their inability to demonstrate mastery of the curriculum being taught. Though the comparison was difficult because of varying denominators, the writer still felt that this objective was met.

Thirty-five out of 51 (69%) compared to 36 out of 60 (60%) supplied the writer with feedback, which was an increase of 9% over what the writer had anticipated.

Since different numbers of parents gave feedback during the four-week period, the writer could only assess whether or not her objective was met through the use of percentages. During the four-week period, an average of 91% (as compared with the anticipated 60%) of the parents who returned the parent comment forms found the information to be useful. This is a 31% increase over what the writer expected, so she again exceeded her anticipated outcome.

Objective Two: (b) While clustering parents' responses to the open-ended questions and displaying them in table form, it was interesting to note that, although they may have expressed their positive feelings in different ways, it was obvious to the writer that all of the parents were thinking congruently. The writer clustered their responses into eight categories. The two areas most often referred to by parents were that the writer's explanations made the processes clearer to them and that the information given in the newsletters was a positive reinforcement tool when trying to help their children at home. Several even stated that her activities and methods made math

Several even stated that her activities and methods made math homework fun.

The writer had feared that parents might answer only the closed-ended questions because of time constraints. Therefore, when the open-ended questions were responded to in such a great degree, the writer felt that she had again exceeded her anticipated outcome.

Objective Three: This objective was not met. Instead of five out of 10 students showing an increase in CHR rates, there was found to be only half that amount of increase of CHR rates in math students between Quarters II and III. This did not mean, however, that the homework folders were unsuccessful. The writer felt that it was due to the fact that parental involvement was not as widespread in Quarter II (when only 14 parents were participating in the homework process for more than half of the quarter) as it was in Quarter III (when a large majority of parents were participating through the newsletter activities and homework folders). Although the increase in student CHR rate was not as good as the writer had expected, she felt that any increase in parental involvement was a step forward in helping her math students be more responsible about consistently completing and returning their homework.

Objective Four: A much higher-than-anticipated rate of increased achievement was seen at the conclusion of the implementation period. The writer doubled her anticipated outcome of 40% and realized an 80% increase in achievement

(grades) between Quarters II and III. This was due to the concentrated parental involvement with the two math teachers and their increased attention and interest toward their children's schoolwork at home. Considering that the pace and difficulty level of the math concepts being presented were increasing (rather than decreasing) as the school year progressed, this was indeed an outstanding accomplishment.

Overall Conclusions: In comparing and contrasting conclusions with references in the literature, the writer found the following to be true. First, she discovered that, although teachers often do not perceive parents to be very interested in getting involved in their children's learning, the majority of her parents did want to be involved in their children's education. She attributed that to the fact that she actively solicited their participation. As Davies (1987) said, a child's education should be viewed as a joint effort, a partnership between home and school, but he qualified his definition of "coproduction" by saying that this parental involvement should be initiated and coordinated by teachers.

Second, the writer found that when she "invited" parents to become more involved (through workshops), informed them of the current teaching methods being used (through newsletters), and then actively solicited their involvement and help (through a homework monitoring system), they not only learned a great deal, but were very appreciative of the time and effort she expended in involving them. Many parents wrote complimentary letters about her personal teaching qualities

and seemed to view her skills as more proficient as the implementation period progressed.

This was substantiated in the literature by Epstein (1984), who listed in her research findings the facts that teachers who actively involved the parents of their students in their classroom learning were more likely to have parents who (a) helped their children more at home, and (b) rated those teachers higher in interpersonal skills and overall teaching quality due to the fact that they were more aware of those teachers' skills and talents, and more fully understood the concepts their children were learning.

Third, the writer found that through consistent, monitored parental involvement, students' math grades (achievement) remained constantly above average or improved (as evidenced by the 80% increase in grades between Quarters II and III). This was substantiated by Henderson (1988), who stated that children whose parents helped them at home and who maintained close contact with the school scored higher on tests than did children of similar aptitude and family background whose parents did not get actively involved.

This specifically relates to results obtained by the writer. Children whose parents were very involved in their homework process helped them to improve their CHR rate, which, in turn caused them to improve their grades or maintain above average grades, even when difficulty level and pace of concepts introduced increased. In contrast, children whose parents did not encourage them to improve their CHR rate did

not show this increase in achievement. For example, of the 23 students who maintained grades of A or B in both Quarters II and III, 21 had CHR rates. Of the 18 students who raised their Quarter II grades (by one or more letter grades), 15 had CHR rates. Of the 10 students who either maintained grades of C or D both quarters, or who dropped one or more letter grades in Quarter III, only 6 had CHR rates.

Therefore, the writer felt that her overall goal was attained. Parents got more involved, learned more about their children's curriculum, became familiar with current teaching methods and math terminology, spent more quality time with their children, realized the importance of stressing responsibility and time-management skills in the home, and, ultimately, saw improvement in their understanding of math concepts, test scores, quarterly grades, and overall achievement. This was rewarding to the students, parents, and math teachers involved.

Recommendations

The writer would like to offer the following recommendations which could benefit others who may be interested in implementing similar projects.

(1) More effort should be made to get all parents involved in all phases of implementation so as to ensure easier assessment of anticipated outcomes.

(2) Teachers should generate more widespread attendance at

parents workshops by rewarding the students of those parents who do attend.

(3) A structured parental involvement program such as the homework monitoring system could be expanded for use from four weeks to the entire school year.

(4) Teachers could develop newsletters for content areas other than math. A grade-level team of teachers could divide up a selected number of content areas, write their own newsletters, and disseminate them for the entire grade level.

(5) Schools could have awards ceremonies for parents who help their children increase their achievement through consistent parental encouragement at home.

(6) Schools could offer teachers inservices to train them in ways that they can best "solicit" and encourage parental involvement in their classroom teaching.

Dissemination

The writer has already shared her practicum results with all of the 60 parents in the two targeted math classes. She has also shared all phases of her implementation with both of her administrators, the other third grade teachers on her team, and an intern teacher from the University of South Florida, who was under her supervision during the implementation stage. She is also considering the possibility of soliciting the help of the school's PTO group for organizing more opportunities for parental involvement.

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APPENDIX A

TEACHER SURVEY

TEACHER SURVEY ON MATH HOMEWORK

Number of students who turned in <u>all</u> homework assignments on time (or within the one-day grace period allowed) = CHR.

Quarter I - - - - _____

Quarter II - - - - _____

Quarter III - - - _____

Of those students who had consistent homework return (CHR), list the number who earned the following grades.

	<u>Quarter I</u>	<u>Quarter II</u>	<u>Quarter III</u>
A (94% - 100%)	_____	_____	_____
B (85% - 93%)	_____	_____	_____
C (75% - 84%)	_____	_____	_____
D (65% - 74%)	_____	_____	_____
F (64% or less)	_____	_____	_____

Teacher Name:_____ Math Group:_____

APPENDIX B

STUDENT SURVEY

YES	NO		
---✓	--	(1)	I am quite responsible about completing and returning homework on time.
___	__	(2)	My parents are willing to help me with math homework if I need help.
___	__	(3)	Sometimes my parents get correct answers, but can not show me how they got them.
___	__	(4)	My parents can usually teach me in the same way my teacher teaches me in school.
___	__	(5)	I often get more confused when my parents try to help me with my math homework.
___	__	(6)	My parents sometimes get upset when I do not understand how to work problems their way.
___	__	(7)	My parents avoid helping me with my math because they struggled with it in school themselves.
___	__	(8)	I think I am a good listener in class when the assignments are being given.
___	__	(9)	I consider math to be one of my best subjects.
___	__	(10)	When I do not turn my homework in on time, it is usually because I just forgot to bring it.
___	__	(11)	When I do not turn my homework in on time, it is because I did not do the work.

APPENDIX C

PARENT LETTER AND SURVEY

Dear Parents,

Like your child, I, too, am a student this year. I am now midway through my first year of an educational doctoral program. One requirement of this program is to write a practicum, which is a practical experience in problem-solving designed to result in positive change in a school-related situation.

In this practicum, I will be (a) identifying a problem area in my work setting, (b) proposing a plan to solve this problem, (c) implementing my solution strategies, and (d) evaluating the effectiveness of the solution.

I would greatly appreciate your help in this project. Please fill out the attached opinion sheets. Be specific and honest about your feelings concerning math homework for your child. Feel free to add any comments or suggestions which you feel reflect areas I did not address or which clarify your responses for me. Your ideas and comments will help me to define my problem area in greater detail: that parents can affect (or not affect) their children's math attitudes and achievement when they are involved with it to some degree.

Thank you very much for taking the time to give each and every one of these questions your careful consideration. It would be greatly appreciated if you could return these surveys to me as soon as possible, as I need your input before I can begin my project. Sincerely,

(Teacher - Grade 3) Jeanne Mills

PARENT SURVEY ON MATH HOMEWORK

(1) I feel that it is important for my child to have math homework. Yes_____ No_____

(2) I feel that my child has math homework;
Too often_____ Often enough_____ Not often enough_____

(3) I feel that my child is very responsible about completing and returning math homework on time.
Yes_____ No_____

(4) I feel confident of my abilities to work with my child if he/she needs my help in any area of third grade math.
Yes_____ No_____

(5) My child organizes his time (out of school) well and plans enough in advance in order to complete his math homework each night that it is assigned.
Never_____ Rarely_____ Usually_____ Always_____

(6) I feel comfortable helping my child with math homework according to current math practices used in schools today, as opposed to the methods used when I went to school. Yes_____ No_____

(7) My own personal math experiences in school were:
Positive_____ Negative_____

(8) I often know how to arrive at the solution to my child's math problems, but I feel like I confuse him because I either:
_____(a) try to teach him by the method which I was taught
_____(b) can show him the solution, but cannot explain my method
_____(c) none of the above (can use current methods)

(9) I feel that an appropriate amount of math homework would be:
_____(a) once a week
_____(b) 2 - 3 nights per week
_____(c) 3 - 4 nights per week
_____(d) never

(10) As a parent, I feel it is my responsibility to see to it that:
(a) my child has a set time each night for homework Yes__No__
(b) my child has a quiet work/study area at home Yes__No__
(c) my child has a system for organizing/returning homework once it is completed Yes__No__

(11) I feel that I could benefit from information concerning current math teaching methods. Yes_____ No_____

(12) I feel that both my child and I need to learn how to be more self-disciplined with study habits and constructive use of time at home. Yes_____ No_____

(13) As a parent, I recognize the importance of helping my child to practice good study habits at home, but:

Yes__No__(a) I do not demand it.
Yes__No__(b) I am inconsistent about monitoring it.
Yes__No__(c) I am not at home nights to help my child.
Yes__No__(d) I am too tired to insist upon these practices.
Yes__No__(e) None of the above (I do encourage it.)

(14) I would be willing to attend parent inservices to help my child improve his/her math achievement. Yes__No__

(15) I would be willing to work with my child's math teacher on a school-to-home monitoring system for math homework. Yes_____ No_____

(16) I feel that, when the home and the school work together, my child will benefit, both in attitude toward math and in math achievement. Yes_____ No_____

APPENDIX D

PARENT WORKSHOP LETTER

Dear Parents,

I would like to thank you for your prompt return of the math homework survey which I sent to you. These questionnaires were sent to the parents of 60 math students, and because of your interest and cooperation, 54 out of the 60 were returned. I especially appreciated your sincere responses to the questions.

On _____, _____, I will be presenting a short summary of the results of this parent survey. In addition, I will be presenting the results of the student survey, which was given to your child in school. I will also discuss some research which supports the importance of math homework and I will offer you some tips on time-management skills in the home so that you can help your child be more responsible about completing and returning assignments on time.

This parent seminar will be held in _____at _____P.M. I think you will find it to be worthwhile, interesting, informative, and applicable to your child and his needs. With your concentrated help at home, your child will receive the additional help he needs in order to completely master those skills which he learns in school. This will improve his overall attitude and math achievement.

Please fill out the bottom portion of this letter so that I may have some idea of how many parents will be attending. Thank you again for your help.

Sincerely,

Jeanne Mills

_____ Yes, I plan to attend.

_____ No, I cannot attend.

APPENDIX E

PARENT WORKSHOP TRANSPARENCIES

PARENT WORKSHOP MATERIALS

TRANSPARENCY ONE

TEACHER SURVEY RESULTS

(1) Twenty-six out of the 60 targeted math students from both the average-paced and fast-paced math classes showed that they had CHR(consistent homework return) rates in Quarter I, according to records in teacher gradebooks.

(2) Eighteen out of the 60 students received grades of "A" on their report cards in Quarter I.

(3) Thirty out of the same 60 students received grades of "B" on their report cards in Quarter I.

(4) Twelve out of the 60 students received grades of "C" or "D" on their report cards in Quarter I.

*CHR (Consistent Homework Return) is defined as the return of homework assignments either on the day they are due or by the following "grace period" day.

GOAL: To maintain or improve the numbers of students receiving the above report card grades, while pace and difficulty level are increased in Quarters II and III (with the added advantage of parental involvement in the homework process).

TRANSPARENCY TWO

STUDENT SURVEY RESULTS

(1) Thirty-five out of the 60 students felt that they were always consistent about returning homework (in contrast

to teacher records showing 26 out of 60 with CHR).

(2) Thirty-three out of the 60 students felt their parents could not show them how they came up with their answers.

(3) Thirty-two of the 60 students felt their parents did not know how to work their math problems in the same way that their teachers taught them at school.

(4) Thirty-five out of the 60 students sometimes felt more confused when their parents tried to teach them one way and their teacher tried to teach them another way.

(5) Thirty-three out of the 60 students stated that when they did not have homework on the day it was due, it was not because they had not done it, but because they had forgotten it.

TRANSPARENCY THREE

PARENT SURVEY RESULTS

*** Of the 60 parents receiving surveys, 54 returned them.

(1) Fifty-one out of 54 parents felt that math homework was an important part of learning.

(2) Forty-two out of 54 felt that the math homework had been appropriately assigned so far by the teachers.

(3) Forty of the 54 felt that their children returned homework assignments in a responsible manner.

(4) Thirty-two of the 54 felt that their children could organize their time well enough in advance to complete their assignments and return them on time.

(5) Twenty-nine of the 54 had had negative experiences in

math themselves, which "colored" their attitudes.

(6) Thirty-four of the 54 admitted that they tried to help their children by using antiquated methods and could get a solution, but could not explain the "how" to them.

(7) Fifty-two of the 54 stated that it was their responsibility to provide a home environment which encouraged good study habits, but. . . .

(8) Forty of the 54 admitted that they were inconsistent in demanding or monitoring these practices.

(9) Twenty-nine of the 54 felt that both they and their children needed to exercise more self-discipline.

(10) Forty-eight of the 54 felt that they could benefit from information concerning currently used math methods.

(11) Forty of the 54 felt that they would like to attend parent workshops to help increase overall math achievement.

(12) Fifty-two of the 54 said that when the home and the school work together, the children benefit.

TRANSPARENCY FOUR

RESEARCH STATES THAT . . .

Students master and retain concepts learned at school when parents involve themselves in the learning process at home to cause this mastery and retention to occur. Parents can involve themselves by setting the following goals:

(a) stress the importance of practicing at home those skills learned at school.

(b) reinforce goals and objectives of the school and the teachers at home.

(c) employ and consistently monitor time-management and study skills.

(d) encourage, support, and motivate their children in a positive manner.

(e) involve themselves in the learning of current math methods and practices.

When children are taught math skills at school and these same skills are reinforced at home with parental help,

(a) childrens' attitude toward math becomes more positive.

(b) childrens' confidence in their abilities grows.

(c) test grades improve.

(d) overall math achievement increases.

(e) children can more easily make the transition from one math concept to another, since one builds upon the one that precedes it.

PARENTS - - -

You are the necessary ingredient in a recipe for your children's success and growth, both academically and developmentally.

YOUR CHILDREN and their teachers need YOU. Please give your help consistently and reap the benefits.

APPENDIX F

RESEARCH HANDOUT FOR PARENTS

RESEARCH ON THE IMPORTANCE OF HOMEWORK

(1) Epstein (1984) felt that teachers who involved parents of their students in classroom learning were more likely to have parents who were willing to help their children at home with school-related learning activities.

(2) Davies (1987) found that teachers and parents who worked together as "coproducers" of the children's education eliminated the gaps in their learning and development.

(3) Cattermole and Robinson (1985) found that strong links between home and school built support for and commitment to the schools and their educational objectives. When parents did not support the schools' efforts through homework, they were not sharing in school goals; nor were they demonstrating commitment to educational goals which were in the best interests of their children.

(4) Henderson (1988) found that children whose parents helped them at home and who maintained close contact with the school (through frequent conferences) scored higher on tests than did children of similar aptitude and family background whose parents were not involved.

(5) Aubey, Fehrmann, Keith, Pottebaum, and Reimers (1986) found that parents who took a more active role in their children's educational and social lives were more apt to encourage their children to study harder. Their findings also pointed out that although homework had been found to have a powerful effect on student achievement, it seemed to be frequently neglected by parents. They felt strongly that it should not be forgotten or ignored as unimportant or bothersome in the push for academic improvement of their children.

(6) Epstein (1987) found that parental assistance was not being offered in the home because teachers did not make specific requests for parents to involve themselves in their children's curriculum through clear instructions which would have helped these parents assist their children at home with learning activities which were directly related to their classroom learning.

(7) Paschal, Wahlberg, and Weinstein (1985) found that the "curriculum of the home" affected academic learning twice as much as the family's socioeconomic status. Homework that was graded or commented upon raised learning from the 50th to the 79th percentile. This "graded homework effect" was among the largest ones discovered in educational research literature.

(8) Bailey and Foyle (1985) found that both preparation and

practice homework raised student achievement and performance, as compared with students who were not assigned homework. (This substantiated the fact that poor grades often resulted when parents did not encourage the completion or return of homework.)

(9) Bliss (1986) reported that, although parents were anxious for their children to do well in math, they, at the same time, felt ambivalent about offering to help them, given their own previous math experiences and levels of expertise. This was one reason why parents did not involve themselves in their children's own education more frequently: for fear of teaching them incorrectly.

In conclusion, educational researchers consistently stated that parental involvement in their children's learning was recognized as an indicator of effective schools. Children who had the added advantage of their parents' support and encouragement in their school-related activities showed very significant gains in achievement, attitude, and development. And, when home and school worked together to provide a unified approach to children's learning, everyone benefited from the combined effort.

If anyone is interested in receiving a complete list of the sources of these references, I will be happy to provide one for you.

Jeanne Mills,

Teacher, Grade 3

APPENDIX G

PARENT CONTRACT

PARENT CONTRACT

I, _____, do hereby pledge that I will try hard to help my child be more responsible about completing and returning math homework the first day it is due. I will assist my child in the following ways:

(1) I will ask my child daily if s(he) has homework.

(2) I will set up a specific time period (15-20 minutes) each night to be set aside for math homework, whether it be written practice assignments or study of number facts.

(3) I will see to it that s(he) adheres to this time period.

(4) I will free myself during this time period so that I am available to offer my child help if s(he) needs it.

(5) I will see to it that my child has a quiet study area in which to work - away from distractions such as the television, radio, or other family-centered activities.

(6) I will check to see that my child has completed the work.

(7) I will remind my child the next morning to be sure that s(he) has the completed work.

I agree to try the above methods with my child, _____.
Teacher's Name_____Signature_____

APPENDIX H

PARENT SELF-RATING SCALE

PARENT SELF-ASSESSMENT
RATING SCALE

Please rate yourself according to the following scale on how well you feel you have met the responsibilities of your parent contract this week.

5 = Always
4 = Usually
3 = Sometimes
2 = Rarely
1 = Never

_____ Ask my child if s(he) has math homework

_____ Set up a specified amount of time for daily math study

_____ Make my child adhere to that time schedule

_____ Be available in case my child needs help

_____ Provide a quiet study area away from household noise

_____ Check to see that my child completes the work

_____ Remind my child to take the work to school the next day

---

Please complete one of these forms the weekend following each of the next three school weeks and return it with your child the following Monday. Check the appropriate week on each form that you return. I truly appreciate your help.

_____ Week of January 9-13,1989 (Return form Mon., Jan.16)

_____ Week of January 16-20,1989 (Return form Mon., Jan.23)

_____ Week of January 23-27,1989 (Return form Mon., Jan.30)

Thank you,

Jeanne Mills

APPENDIX I

PARENT LETTER INTRODUCING NEWSLETTERS

Dear Parents,

I would like to thank all of you who attended my parent workshop on math homework and who participated in the follow-up activities. For those of you who could not attend, we missed you, but understand how difficult it is to come to nightly meetings sometimes.

For the next four weeks, I will be needing parental involvement again, but this will be done at home. At the parent workshop, I received input as to skill areas which parents felt were difficult to teach their children. The four areas I selected are also the most difficult for children to master and retain. These areas are: place value, regrouping in subtraction, zeroes in subtraction, and solving story problems. I will be sending home newsletters which offer you specific teaching methods in all four of these areas so that you can review these skills with your children. (This will be an excellent review for the Stanford Achievement Test which is given in late spring and which includes all of these areas on its math section.)

In addition to the newsletter, each Monday for the next four weeks, your children will be bringing home a related activity sheet and a newsletter parent comment form for you to fill out. If your child returns the activity sheet and parent comment form by Friday of that week (or by the following Monday), s(he) will earn two extra credit points added to his/her test grade for that week.

Please try to spend 30 minutes each week for the next four weeks to review these specific skill areas, according to current math teaching methods, and return the two forms by the times requested above. Thank you for helping your child. I look forward to hearing your comments about these activities.

Sincerely,

Jeanne Mills

APPENDIX J

NEWSLETTER AND ACTIVITY SHEET I

PARENT NEWSLETTER I

Place Value: the assigning of a value to each numeral in a number with more than one digit

(O = Ones) (T = Tens) (H = Hundreds) (Th = Thousands)

Example 1: In the numeral 63, we think in terms of

T	O
6	3

Since 3 is in the Ones' place, it is equal in value to 3 x 1, or 3. But, the digit 6 is not equal in value to 6, because it is in the Tens' Place . Therefore, it is equal to 6 x 10, or 60. (60 + 3 = 63)

Hint : The numeral standing in the place value column does not always equal what its name represents. Rather, it must be multiplied by the value of the place it is standing in.

Example 2 : In 789, we think in terms of

H	T	O
7	8	9

9 = 9 x 1, or 9 because it is in the Ones' Place

8 = 8 x 10, or 80, because it is in the Tens' Place

7 = 7 x 100, or 700, because it is in the Hundreds' Place

Hence, 700 + 80 + 9 = 789.

REMEMBER that each place has its own value.

ACTIVITY SHEET I

Tell which place value column the underlined numeral is standing in. (Write H, T, or O)

(1) 6̲82 = _____

(2) 7̲9 = _____

(3) 9,1̲04 = _____

(4) 1̲75 = _____

(5) 6̲8 = _____

(6) 3,7̲14 = _____

(7) 54̲3 = _____

(8) 1̲17 = _____

(9) 2,66̲3 = _____

(10) 88̲8 = _____

Tell which value you would assign to the underlined digit. (Remember to multiply that digit by the value of the place in which it is standing.)

(11) 6̲82 = (6 =)

(12) 7̲9 = (7 =)

(13) 9,1̲04 = (0 =)

(14) 1̲75 = (1 =)

(15) 6̲8 = (8 =)

(16) 3,7̲14 = (7 =)

(17) 54̲3 = (3 =)

(18) 1̲17 = (1 =)

(19) 2,66̲3 = (6 =)

(20) 88̲8 = (8 =)

I hope that you found these activities to be helpful. Please remember to sit with your child as s(he) works them. I am very much looking forward to receiving your comment sheets.

Sincerely.

Jeanne Mills

APPENDIX K

NEWSLETTER AND ACTIVITY SHEET II

PARENT NEWSLETTER II

(Regrouping and Subtraction)

(O = Ones) (T = Tens) (H = Hundreds) (Th = Thousands)

Rules to remember:
(1) Always subtract in the Ones' place first.
(2) Ask yourself if you can work the Ones' place the way it is or if you need to borrow (subtract) from the column to the left and then regroup (add) to the column to the right? This applies to all place value columns - ask the question before you write your answer.
(3) Do not borrow if you do not need to.
(4) Remember these equivalencies:
(1T = 10 Ones) (1H = 10 Tens)
(1Th = 10 Hundreds)

There are several types of subtraction problems which require different types of regrouping patterns and sequential steps.

Example 1 : Regrouping Only in the Ones' Place

	Step 1	Step 2	Step 3
T O		7 16	7 16
8 6	8 6	8 6	8 6
- 6 8	-6 8	-6 8	-6 8
			1 8
	Can I work the Ones' column? No, I cannot.	Borrow from the Tens'(8T-1T=7T) Regroup in Ones. (6 Ones + 10 Ones)	Subtract in Ones. (16-8=8) Then, subtract in Tens. (7-6=1) Hence, (86 - 68 = 18)

Step 4

1
1 8
+6 8
8 6

Always check your work . You check by using the reverse operation (addition). Add the answer to the number you subtracted. If you get the top number in the original problem, you have solved it correctly.

Example 2: Regrouping Only in the Tens' Place

	Step 1		Step 2	
H T O			4 18	
5 8 7	5 8 7	Since I can work the Ones' column the way it is, I do not need to borrow.	5 8 7	I cannot work the Tens' as is - I borrow from the Hundreds' and regroup in the Tens'. (5H - 1H = 4H). Then, (8T + 10T = 18T)
-2 9 3	-2 9 3		-2 9 3	
	4		4	

Example 2 (cont'd) Regrouping Only in the Tens' Place

Step 3

```
 4 18
 5 8 7
-2 9 3
 2 9 4
```

Now, subtract in the Tens' column (18T - 9T = 9T). Subtract in the Hundreds' (4H - 2H = 2H)

Step 4

```
   1
 2 9 4
+2 9 3
 5 8 7
```

Check your answer.

Example 3 - Regrouping in the Tens' and Ones' Columns

```
H T O
7 1 2
-6 9 3
```

Step 1

```
  0 12
7 1 2
-6 9 3
```

I can't subtract in the Ones', so I borrow (subtract) from the Tens' and regroup (add) in the Ones.
(1 Ten - 1 Ten = 0 Tens)
(2 Ones + 10 Ones = 12)

REMEMBER:

When you borrow, you cross out the 1 and write 0 above it. Next, cross out the 2 and write 12 above it. You must do it in this order - subtract 1 to your left and add 10 to your right.

Step 2

```
  0 12
7 1 2
-6 9 3
    9
```

Now, I can work the Ones' column. But, I still cannot work the Tens. First, I must borrow & regroup again.

Step 3

```
 6 10
  0 12
 7 1 2
-6 9 3
 1 9
```

Now, I can subtract left and regroup right. (7H - 1H = 6H) (0T + 10T = 10) I can also work the Hundreds'. But, the answer is 0, so we leave the placeholder blank since it is the last one to the left.

Step 4

```
 1 1
   1 9
+6 9 3
 7 1 2
```

Add to check your answer.

I hope these examples were helpful. Have your children try the activity page that accompanies these instructions. And, please do each problem with your children. Mrs. Mills

ACTIVITY SHEET II

(Regrouping Only in the Ones' Column)

	Check		Check		Check
(1) 5 3 -1 7		(2) 9 1 -7 6		(3) 4 1 -1 5	

(Regrouping Only in the Tens' Column)

	Check		Check		Check
(4) 4 2 8 -1 3 7		(5) 9 5 6 -7 7 5		(6) 6 1 4 -3 8 2	

(Regrouping in Both the Ones' and Tens' Columns)

	Check		Check		Check
(7) 6 2 4 -1 3 6		(8) 4 1 7 -2 9 8		(9) 8 4 6 -6 9 7	

Dear Parents,

I hope that this clarifies the methods we use in school today. Please work with your children on these activities, and have them return this page and your parent comment sheet so that they may earn one extra credit point. Thank you,

Mrs. Mills

APPENDIX L

NEWSLETTER AND ACTIVITY SHEET III

PARENT NEWSLETTER III

(Zeroes in Regrouping and Subtraction)

* Refer to the two previous newlsetters as a "refresher".
* Remember that this is the most difficult concept for a child to master when subtracting with regrouping.
* Remember that following the method we use in school in the same order (sequence) is very important to your children's understanding and mastery of this math concept.

Example 1 - Zeroes in the Tens' Column

```
  6 0 3
- 1 2 9
```

Step 1

```
  5 10
  6 0 3
- 1 2 9
```

I cannot work the Ones' column. I need to borrow. But, there's no one home at Mr. T's house. So, I go over to Mr. H's & take 1 member of his family, leaving 5. I break apart Mr. H into 10 Mr. T's, take the 10 pieces next door, and add them to the other T's. (6H - 1H = 5H) and (0 T + 10 T = 10 T)

Hint : Mr. T = People in the Tens' house
Mr. H = People in the Hundreds' house
(The process of "breaking up" one of the people in the Tens' or Hundreds' houses should be equated with superheroes in the cartoons. They are not hurt by this changing process and they don't disappear or die. They just change appearance.

Step 2

```
    9
  5 10 13
  6  0  3
- 1  2  9
  4  7  4
```

I still cannot work the Ones' column, so I try to borrow from the Tens' column again. Now, I can, because someone's home. (10T - 1T = 9T) and (3 Ones + 10 Ones = 13 Ones) I solve, working in the Ones' column first. (13 - 9 = 4) (9 - 2 = 7) (5 - 1 = 4)

Step 3

```
  1 1
  4 7 4
+ 1 2 9
  6 0 3
```

Addition helps me check my answer.

Example 2 - Zeroes in the Hundreds' Column

```
  4 0 6 3
- 2 1 9 2
```

Step 1

```
  4 0 6 3
- 2 1 9 2
        1
```

I can subtract in the Ones' column, but not in the Tens'. I need to borrow from the column to the left (Hundreds), but there's no one home.

Step 2

```
 3  10
 4  0  6  3
-2  1  9  2
       1
```

I go further to my left to Mr. Th's. I take 1 member of his family, leaving 3 Th, break him up into 10 H, and add to the existing family of H. (4Th - 1Th = 3TH) (0H + 10H = 10H) Remember: I still have to ask myself the question: Can I solve the next column to my left? No, because I cannot subtract 9 from 6.

Step 3

```
     9
 3  10 16
 4  0  6  3
-2  1  9  2
 1  8  7  1
```

I now see that someone is home at Mr. H's. I take 1 H, leaving 9H, change him into 10 T's, and add the 10 T's to the 6 T's. (10H-1H=9H) (6T+10T=16T) Now, I can solve. (16-9=7) (9-1=8) (3-2=1)

Step 4 - Check by adding. (1,871 + 2,192 = 4,063)

Example 3

```
 8 0 0 2
-4 9 6 7
```

Step 1

```
    7  10
    8  0  0  2
   -4  9  6  7
```

I cannot solve in the Ones, and I can't borrow from either the T's or the H's (no one home). So I go all the way to the Th's, take 1 Th, leaving 7, change Mr. Th into 10 H, and add that to the H family. Thus, (8Th - 1Th = 7Th) and (0T +10T = 10)

Step 2

```
     9
 7  10 10
 8  0  0  2
-4  9  6  7
```

I still can't solve in the Ones, so I borrow from the H house since no one is home at the T house). I take 1H, leaving 9H, change that 1 H to 10 T, and add the 10 T to the T family. (10H - 1H = 9H) (0T + 10T = 10T) But, I'm not ready yet to solve in the Ones' column. I need to borrow and regroup one more time.

Step 3

```
     9  9
 7  10 10 12
 8  0  0  2
-4  9  6  7
 3  0  3  5
```

Again, I go to the column to the left of the one I'm trying to solve, and borrow. I take 1T, change it to 10 0, and add 10 0 to the Ones' family. (10T - 1T = 9T) Then, regroup - (2 Ones + 10 Ones = 12 Ones) Now, I can solve. (12-7=5) (9-6=3) (9-9=0) (7-4=3)

Step 4

```
 1  1  1
 3  0  3  5
+4  9  6  7
 8  0  0  2
```

Checking proves that my work is accurate.

Use these rules and sequential steps to help your children review the process of zeroes in subtraction.

ACTIVITY SHEET III

(Zeroes in the Tens' column only)

		Check			Check
(1)	5 0 6 -4 8 7		(2)	8 0 4 -2 7 9	

(Zeroes in the Hundreds' Column Only)

		Check			Check
(3)	6 0 1 9 -4 9 2 7		(4)	3 0 2 4 -1 8 7 6	

(Zeroes in Both the Tens' and Hundreds'Columns)

		Check			Check
(5)	7 0 0 8 -4 5 1 9		(6)	4 0 0 1 -2 6 3 7	

Please work with your child on these problems, using the newsletter examples and instructions as your guide. Then return this sheet and the parent comment form to me. Thank you for you participation.

Mrs. Mills

APPENDIX M

PARENT LETTER INTRODUCING HOMEWORK FOLDERS

Dear Parents,

Please read the suggestions in Newsletter IV with your children and complete the activity page together. It is very important that you follow the seven steps listed in this newsletter while solving these story problems. I would suggest that you use a colored marker to underline key words and phrases you find when reading and re-reading the problems. Some of the problems may require more than one mathematical operation, so alert your children to that possibility. Please be sure to show all work, not just the final answer. Use additional worksheets, if necessary.

This is the last of my four parent newsletters. I hope that you found it useful to see the methods used in school by your children's math teachers and to be able to try them out together. Beginning ____day____, ____date____, I will be implementing the final phase of my project on parental involvement. Your children will be bringing home a math homework folder every night, which will serve as a means of monitoring math homework assignments between home and school.

It is designed to help you become more aware of what your children's math assignments are, and to monitor their completion and return to school. Nightly assignments will be written in the folder daily by your children, and your job will be to sign the folder nightly when you have seen the completed work. Your children will earn one extra credit point for returning the signed folder and completed work each day. A possible five points added to weekly test grades can make a big difference in final grades.

Thank you again for your support and help in this practicum project. Since the final week of implementation is drawing near, I am requesting that all homework folders and suggestions be returned by ____day____, ____date____ .

Sincerely,

Jeanne Mills

APPENDIX N

NEWSLETTER AND ACTIVITY SHEET IV

PARENT NEWSLETTER IV

(Problem Solving)

ADD: to find out how many in all when you start with one group and add more to it

SUBTRACT: to find a difference between two amounts (or to compare two groups), to find out how many more or how many fewer, or to find out how much is left over

MULTIPLY : to find out how many in all when one number is repeating itself many times, and when the key words "each" or "times" are used in the story problem, but not in the question at the end of the story

DIVIDE : to find out how many groups or how many are in each group when given the total amount, and when the key word "each" is used in the question at the end of the story problem, but not in the story itself.

REMEMBER : When solving story problems, follow these steps:

(1) Read the story problem carefully.

(2) Read it again and think about what it is asking you to do.

(3) Look for key words or questions to help you decide which mathematical operation to use (addition, subtraction, multiplication, or division).

(4) Select one of the four operations listed above.

(5) Write the number sentence with the appropriate mathematical sign.

(6) Solve the problem.

(7) Check your answer.

ACTIVITY SHEET IV

Solve these story problems according to the newsletter steps.

(1) If there were 9 tables in the lunchroom, and each table seated 6 students, how many students could be seated in the lunchroom?

(2) A girl bought a dozen jelly doughnuts. Then she went back and got 9 chocolate doughnuts. How many doughnuts did she get in all?

(3) Tom earned $6.50 raking leaves. His sister earned $20.00 babysitting. Who earned more? How much more?

(4) A loaf of bread contained 28 slices. Seven men made sandwiches for their hunting trip. If they shared equally the entire loaf of bread, how many sandwiches did each man get? Hint: 1 sandwich has 2 bread slices.

(5) Toni's mom baked cookies for her birthday party. She filled 9 cookie pans with 8 cookies on each pan. How many cookies did Toni's mom bake?

(6) Forty-eight people rode in 8 cars to Sea World. If all the cars held equal numbers of people, how many were able to ride in each car?

(7) Eighty-one trees were planted in a new part of the forest. All grew to be healthy and strong. However, years later, a forest fire destroyed 27 of them. How many of the original group survived?

(8) A plane carried a cargo of African snakes to America. Thirty-six of these snakes were poisonous and 9 were not. How many snakes were on the plane? If there were only 5 cages, how many snakes were in each cage? Hint: You must not mix poisonous and non-poisonous snakes in the same cages.

(9) A jeweler ordered enough earring sets to outfit 6 of his best customers with 4 original pair each so that none of them would be seen wearing the same earrings. How many pair did he order?

(10) Mrs. Green took 8 shirts to the dry cleaners, all of them having 7 buttons. When she brought the clean shirts home to her husband, there were 5 missing buttons. How many buttons were there in all when she took the shirts to the cleaners? How many were there when she brought them home?

APPENDIX O

NEWSLETTER PARENT COMMENT FORM

NEWSLETTER PARENT COMMENT FORM

Name of child:_____

Math Teacher:_____

(1) Did the suggested activities or tips in this newsletter help you? Yes No

(2) Did you try any of them with your child? Yes No

(3) Tell which suggested activity or tip was most helpful to you as a parent_____
_____
_____
_____

(4) Why was it helpful when other methods have either failed or not been as successful?_____
_____
_____
_____

(5) Added comments:_____
_____
_____
_____

APPENDIX P

HOMEWORK FOLDER FORM

HOMEWORK FOLDER

WEEK ONE : February 27 - March 3

	Monday	Tuesday	Wednesday	Thursday	Friday
ASSIGNMENTS:	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
SIGNATURE:	_____	_____	_____	_____	_____

WEEK TWO : March 6 - March 10

	Monday	Tuesday	Wednesday	Thursday	Friday
ASSIGNMENTS:	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
SIGNATURE:	_____	_____	_____	_____	_____

WEEK THREE: March 13 - March 17

	Monday	Tuesday	Wednesday	Thursday	Friday
ASSIGNMENTS:	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
SIGNATURE:	_____	_____	_____	_____	_____

WEEK FOUR: March 20 - March 23

	Monday	Tuesday	Wednesday	Thursday	Friday
ASSIGNMENTS:	_____	_____	_____	_____	_____
	_____	_____	_____	_____	_____
SIGNATURE:	_____	_____	_____	_____	_____

COMMENTS: _____

_____

_____

APPENDIX Q

TEACHER HOMEWORK DATA SHEET - HIGH GROUP

TEACHER HOMEWORK DATA SHEET

TEACHER NAME: A MATH GROUP: High

Name	Qtr. II (CHR)	Qtr II (Grade)	Qtr III (CHR)	Qtr III (Grade)
(1)	Yes	B	Yes	A
(2)	Yes	A	Yes	A
(3)	No	C	Yes	A
(4)	Yes	A	Yes	A
(5)	Yes	B	Yes	A
(6)	Yes	B	Yes	B
(7)	Yes	A	Yes	B
(8)	Yes	B	Yes	B
(9)	No	D	Yes	C
(10)	Yes	B	Yes	B
(11)	No	C	No	C
(12)	Yes	A	Yes	B
(13)	No	B	Yes	A
(14)	Yes	B	Yes	A
(15)	No	C	Yes	C
(16)	Yes	A	Yes	B
(17)	No	C	Yes	A
(18)	Yes	B	Yes	B
(19)	No	C	Yes	A
(20)	Yes	A	Yes	A
(21)	Yes	B	Yes	B
(22)	No	D	No	C
(23)	No	B	No	B

TEACHER NAME: A MATH GROUP: High

Name:	Qtr II (CHR)	Qtr II (Grade)	Qtr III (CHR)	Qtr III (Grade)
(24)	Yes	B	Yes	B
(25)	Yes	B	Yes	B
(26)	Yes	B	Yes	B
(27)	No	B	Yes	B
(28)	No	C	No	C
(29)	No	C	Yes	C
(30)	___	___	___	___

* CHR = Homework assignments that are turned in either the first day they are due or by the "grace period" day

* * Of those students who did not have CHR in Quarter III, even the majority of them improved their homework return rate considerably from Quarter II. Many missed earning CHR just by one or two assignments, rather than six or seven, as before.

* * * (The above criteria applies to both the high and the average math groups.)

APPENDIX R

TEACHER HOMEWORK DATA SHEET - AVERAGE GROUP

TEACHER HOMEWORK DATA SHEET

TEACHER NAME: B MATH GROUP: Average

Name	Qtr II (CHR)	Qtr II (Grade)	Qtr III (CHR)	Qtr III (Grade)
(1)	Yes	A	Yes	A
(2)	Yes	B	Yes	B
(3)	Yes	A	Yes	A
(4)	Yes	A	Yes	A
(5)	No	B	Yes	A
(6)	Yes	B	Yes	A
(7)	No	C	Yes	B
(8)	No	D	No	D
(9)	Yes	B	Yes	B
(10)	Yes	B	No	B
(11)	Yes	A	Yes	A
(12)	No	D	No	C
(13)	Yes	B	Yes	A
(14)	No	B	No	C
(15)	Yes	A	Yes	A
(16)	Yes	B	Yes	B
(17)	Yes	B	Yes	A
(18)	No	C	No	B
(19)	Yes	A	Yes	A
(20)	No	B	Yes	A
(21)	No	C	Yes	B
(22)	Yes	C	Yes	C
(23)	___	___	___	___

APPENDIX S

FINAL LETTER TO PARENTS

Dear Parents,

Thank you again for participating in my project on parental involvement. The results were very favorable and demonstrated that parental involvement is not only vitally important, but positively influences student achievement.

In the project, I studied the effects of consistent homework return (CHP) on overall student achievement. I defined CHR as the returning of assigned work either on the day it was due or by one "grace period" day later. In Quarter I, before parents were invited to participate in the homework process, the CHR rate of the total group was 39%. In Quarter II, it rose to 61%, and in Quarter III, it increased dramatically to 86%. After parental involvement was solicited and encouraged in Quarters II and III, we saw an overall increase of 47% in the CHR rate of the group. What a positive effect, you, as parents, have on your children's work.

This increase in CHR also positively influenced overall report card grades for Quarters II and III. (Even though grades were good in Period I, I did not report on them because of the math concepts being studied at that time. Most of those skills were merely a review of second grade concepts and did not require additional home study in order for your children to earn a good grade.)

Although we began with 60 students in Quarter I, some of them moved to other schools. Therefore, in order to track the same students throughout the three grading periods, I had to use only the 51 students who were present from the project's inception to its conclusion. Below are the results of this group of 51 students. The CHR rate listed is representative of either Quarter III or of both Quarters II and III.

CHR (# of students)	(percentage)	(Quarter II)	(Quarter III)
9	9/51	17.5%	(maintained A - both qtrs)
12	14/51	27.0%	(maintained B - both qtrs)
9	9/51	17.5%	B A
2	3/51	6.0%	C B
3	3/51	6.0%	C A
1	3/51	6.0%	D C
3	5/51	10.0%	(maintained C - both qtrs)
0	1/51	2.0%	(maintained D - both qtrs)
3	3/51	6.0%	A B
0	1/51	2.0%	B C

As you can see from the above figures, CHR rates in both quarters positively affected math achievement, with a few exceptions. These positive figures appear even more staggering if we remember that the difficulty levels increased

during Quarters II and III. Even with this increase in difficulty level, 75% of the group either maintained grades of A or B both quarters or improved from a lower grade to an A or a B in Quarter III. I feel certain that parental involvement directly influenced this increase in achievement rate in the two report card periods. You do make a difference in your children's lives, both academically and developmentally.

I am very excited about these positive findings, not only because they substantiate the results of many of the research studies which I read and shared with you prior to doing this project, but also because I think research means much more to you, as parents, when you have been directly involved in creating the research figures yourselves with your children.

I appreciate all of your time and interest. Your positive feedback and individual personal comments made the implementation period more meaningful to me and helped me to see things from a parent`s perspective rather than a teacher's outlook. And, I would like to give a special thanks to Mrs. Donna Beets, the teacher of the other math students in the sample total group. Without her assistance in the tabulation of CHR rates and her cooperation in providing me with report card grades for her group, I would not have had as smooth an implementation period as I did. Nor would I have had the advantage of having the larger-sized total population in my sample.

I hope that you will find these results as exciting and interesting as I did. Please check below the project implementation areas which you personally found to be the most meaningful to you as far as encouraging you to become more involved in your children's math homework process this year. I would also appreciate any additional comments you might wish to offer which would help me in the writing of my final report. Please complete and return this bottom portion by tomorrow as I will be writing my final report over the spring break.

Sincerely,

Jeanne Mills

_____ Parent Workshop

_____ Parent Contract and Self-rating Scales

_____ Parent Newsletters, Activity Sheets. Parent Comments

_____ Parent/Student Homework Monitoring Process (Folders)

Additional Comments:_____